



Fifth X-40A free flight test successful

The X-40A vehicle successfully performed a fifth in a series of up to seven free flight tests Tuesday at Dryden Flight Research Center at Edwards, Calif. The fourth test was successfully conducted Saturday.

The X-40A's free flight and landing tests are being conducted as part of the Marshall-managed X-37 program.

The X-40A was lifted by an Army Chinook helicopter to an altitude of 15,023 feet and released at 6:51 a.m. PDT, reaching a speed of 133 feet per second, to complete the test when the wheels rolled to a stop at 6:53 a.m. PDT.

The vehicle was released off-centerline — not centered directly over the landing site — testing the flight computer's ability to maneuver the vehicle to a straight approach to the landing site. Additionally, vehicle performance measurements were made during pitch adjustments — when the nose is raised, lowered and moved side to side.



Photo by Emmett Given, NASA/Marshall Space Flight Center

Community leaders get Marshall update

Marshall Center Director Art Stephenson welcomes Sandra Moon, president of the Huntsville City Council, and other community leaders to the annual community leaders breakfast Tuesday at the Marshall Center. Stephenson presented an update of the Center's programs and activities.

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'Starship 2040' embarks on national campaign

NASA's Starship 2040 started its national tour last month in Chicago at the annual National Manufacturing Week trade show and conducted a three-city tour through Middle Tennessee. Starship 2040 is a product of Marshall's Space Transportation Directorate and the Customer and Employee Relations Directorate.

It travels to Washington D.C., as part of NASA's annual Turning Goals into Reality conference May 16-18, and will make public stops at visitor centers at Goddard Space Center in Greenbelt, Md., May 19-21, and Langley Research Center in Hampton, Va., May 22-25. Future state tours are in the works.

NASA and public officials are particularly excited by the

See Starship on page 8

Marshall Web site wins international award

A leading NASA Web site, located at: <http://Science.NASA.gov>, has earned international recognition, winning Pirelli's INTERNETional special section prize for scientific information — an award for the best multimedia product promoting scientific awareness via the Internet.

The award, given annually by Pirelli S.p.A., an Italian multinational manufacturer of tires, cables and systems for telecommunications and energy transmission, was presented in a formal ceremony in Rome, Italy, last month.

The award-winning NASA Web site features science, math and space news. It is one of the Science@NASA family of Web sites operated by the Marshall Center and covers a variety of space-related subjects in simple terms everyone can understand.

The site addresses such questions as what is space weather, what's in the heart of a hurricane, whether humans can live on Mars, and what it's like to live aboard the International Space Station.

"We are honored to receive this award," said Ron Koczor, the NASA manager responsible for the site. "It's heartening to know our science news is reaching not only people throughout the United States, but people throughout the world."

The family of Web sites that includes <http://Science.NASA.gov>, averages more than 45 million hits a month. A Spanish version of this site is located at: <http://ciencia.msfc.NASA.gov>

Approximately 200 people attended the awards ceremony,



Photo by Terry Leibold, NASA/Marshall Space Flight Center

Marshall Associate Director Sid Saucier, left, presents a Group Achievement Award to members of the Web site team: Patrick Meyer, Bryan Walls, Becky Bray, Linda Porter and Ron Koczor.

including the Italian Prime Minister Giuliano Amato and Marco Tronchetti Provera, chairman and chief executive officer of Pirelli.

Pirelli launched the awards program in 1995 to identify and promote excellence in multimedia works that improve knowledge and intelligent control of science and technology. More information about the Pirelli Awards can be found at:

<http://www.pirelliaward.com>

Letters to the Editor

Local agencies express thanks to Marshall Community

On behalf of the staff and board of directors of the Rehabilitation Center Inc., we send our heartfelt thanks to you and the Tennessee Valley Combined Federal Campaign for the \$1,219.24 allocation to the Tennessee Valley Rehabilitation Center Inc.

Although you may not come in contact with those we serve, we assure you that lives are richer and more productive because of the interest and generosity being displayed by the participants in the Combined Federal Campaign.

Again, thank you for the generous support the Combined Federal Campaign has shown us over the years. Without

community support, the center could not continue to provide the services to persons with disabilities that we have pledged to provide.

Kathy Cagle
Director of Administrative Services
Rehabilitation Center Inc.

On behalf of the Alabama Kidney Foundation, I would like to thank you for your generous donation of \$2,144.28 on behalf of the employees in your area. We are grateful for the opportunity to be included in your Combined Federal Campaign. The Alabama Kidney Foundation is a non-

profit, voluntary health agency dedicated to the cure and prevention of kidney disease. We provide a variety of patient assistance programs to help kidney patients in Alabama. In addition, we support kidney disease research, public education about kidney disease and health advocacy for kidney patients.

Again, thank you for your donation to the Alabama Kidney Foundation. We deeply appreciate your continuing support of our organization.

E.W. "Jack" Jackson III
Executive Director
Alabama Kidney Foundation

Alabama Aviation Hall of Fame inducts Stuhlinger, Davis

Dr. Ernst Stuhlinger, who retired as associate director of Science at Marshall in 1975, and Dr. N. Jan Davis, director of the Flight Projects Directorate at Marshall, were inducted into the Alabama Aviation Hall of Fame Friday.

The Hall of Fame recognizes Alabamians who have made significant contributions to the advancement of aviation and aerospace in the state.

Stuhlinger, a physicist born and educated in Germany, has been involved in rocketry and space work since 1943 when he joined the rocket development team at Peenemuende, Germany.

He came to the United States at the end of World War II and worked for the U.S. Army several years before transferring to NASA when the Marshall Center was established in 1960.

Under his direction, early planning for lunar exploration and the Skylab Apollo Telescope Mount was carried out. He was also responsible for the early planning on the High Energy Astronomy Observatory and he contributed to the initial phases of the Space Telescope, later renamed the Hubble Space Telescope.

His work has included studies of electric propulsion for exploring planets, comets, asteroids and other targets of the solar system, plus scientific payloads for the Space Shuttle.

After retiring from NASA, Stuhlinger joined the University of Alabama in Huntsville, teaching astrophysics and space sciences, and working on the development and testing of electric automobiles. He spent several months at the universities of Munich and Heidelberg under the Alexander von Humboldt research award program. Later he joined Teledyne Brown Engineering in Huntsville. During recent years, he has been working as a consultant for several aerospace companies.

He is also co-author of "Wernher von Braun, Crusader for Space," and has been awarded honorary degrees from the University of Alabama in Huntsville and the Technical University of Berlin.

As director of the Flight Projects Directorate at the Marshall Center, Davis oversees development of the International Space Station's connecting nodes 2 and 3; multi-purpose logistics modules; commercial EXPRESS Racks; and environmental and life-support systems. Davis also oversees the Payload Operations Center — the Space Station science command post at the

Marshall Center that links Earth-bound researchers around the world with the Station. Her directorate also works closely with the Boeing Company as it builds and tests structural elements and truss segments of the Space Station.

Davis began her career at Marshall in 1979, leading a team responsible for structural analysis and verification of the Hubble Space Telescope, the telescope servicing mission and the Chandra X-ray Observatory. She also was lead engineer for the redesign of the Space Shuttle Solid Rocket Booster External Tank attach ring.

Selected to join the Astronaut Corps in 1987, Davis flew on three Space Shuttle missions — STS-47 in 1992, STS-60 in 1994 and STS-85 in 1997. Prior to her Shuttle flights, Davis served as the capsule communicator with Shuttle crews from the Mission Control Center at the Johnson Space Center in Houston. Before returning to Marshall, Davis was director of the Human Exploration and Development of Space Independent Assurance Office at NASA Headquarters in Washington, D.C.

The owner of one patent, Davis is a Registered Professional Engineer and has been awarded NASA's Outstanding Leadership Medal, Exceptional Service Medal, and three Space Flight Medals, as well as the Marshall Space Flight Center Director's Commendation. She was recently inducted into the Alabama Engineering Hall of Fame. As a winner of the Alpha Xi Delta Woman of Distinction Award, she also was recently named to the University of Alabama in Huntsville Distinguished Engineering Alumni Academy. She is an ASME Fellow — the highest distinction bestowed by the American Society of Mechanical Engineers.

Davis, a 1971 graduate of Huntsville High School, earned a bachelor's degree in applied biology at the Georgia Institute of Technology in Atlanta, and a bachelor's degree in mechanical engineering from Auburn University. She earned her master's and doctoral degrees in mechanical engineering from the University of Alabama in Huntsville.

The Aviation Hall of Fame is located at the Southern Museum of Flight in Birmingham, and features plaques honoring people who made important contributions to Alabama or national aviation history. Established in 1979 by the Alabama Legislature, the Hall of Fame's state-appointed board selects inductees every two years.



Stuhlinger



Davis



Elliot Pulham, left, president and chief executive officer of the Space Foundation, congratulates Schramm.



Steve Eisenhart, left, vice president of public affairs and policy for the Space Foundation, congratulates Nabors.

Honored by Space Technology Hall of Fame

Fred Schramm and Sammy Nabors of Marshall's Technology Transfer Department recently were honored by the Space Technology Hall of Fame for their roles in new technologies.

Schramm, manager of Technology Transfer's Center Director's Discretionary Fund, was honored for his role in commercializing compressed symbology. Nabors, Technology Transfer's Commercialization Assistance Team lead, was honored for his role in commercializing Video Image Stabilization and Registration (VISAR).

The Hall of Fame honors technologies originally developed for space applications that have been commercialized to benefit life on Earth.

The Space Technology Hall of Fame, established by the Space Foundation and NASA, honors innovators who have transformed technology developed for space use into commercial projects. The hall also works to increase awareness of the benefits of space spin-off technology and to encourage further innovation.

Local organizations talk to students about engineering

More than 300 selected local high school juniors participated in "Adventures in Engineering" day last month, thanks to the combined efforts of seven local area governmental and defense industry organizations.

The event — which included engineering displays and information; interaction with U.S. Army astronaut Lt. Col. Doug Wheelock; a live-fire tactical missile demonstration; and the Great Moonbuggy races — was held to promote the pursuit of careers in science and engineering.

The Marshall Center, U.S. Army Space and Missile Defense Command, U.S. Army Aviation and Missile Command, U.S. Space & Rocket Center, and the Huntsville/Madison County Chamber of Commerce participated. The Space and Missile Defense Association and the University of Alabama in Huntsville sponsored the event.



Photo by Emmett Given, NASA/Marshall Space Flight Center

Astronaut Doug Wheelock talks to high school students during the recent Adventures in Science and Engineering Day.

Marshall Center's Neil Otte traded John Deere axle grease for Space Shuttle's External Tank

by Lynnette Madison

When Neil Otte was growing up in Kahoka, Mo. — near the stomping grounds of Tom Sawyer, Huck Finn and Mark Twain — he knew exactly what he wanted to do with his life: to be a diesel mechanic on John Deere tractors.

"I was a farm boy from a farming community in northeast Missouri," says Otte, chief engineer for the External Tank Project at Marshall. "What else would I want? I thought being a diesel mechanic was pretty exciting."

His eleventh grade science teacher told him that he would get bored. He was right.

Last fall, Otte returned to Kahoka to share that story with Gloria Allen's eighth grade class at Clarke County Middle School. "I wanted those eighth graders to understand they shouldn't discard an idea because they didn't think they could do it," adds Otte.

"I never considered working for NASA. When I was growing up, those guys were heroes. NASA was revered," says Otte. "They had landed a man on the Moon. And I was just a small-town boy."

Otte became a diesel mechanic — going from high school, to technical college, to work. "But, after seven years, I could take those diesels apart and put them back together without thinking about it. It just wasn't a challenge anymore."

"My teacher was right. I got bored."

By that time, his wife Kim had completed college and the couple decided it was Neil Otte's turn to try something different. He enrolled at Iowa State University in Ames, Iowa, and began work on a bachelor's degree in mechanical engineering.

"When I started college, I remember telling my wife that if I ever finished I might be able to work at NASA," Otte recalls. "Then, right before graduation, I saw a notice on a bulletin board that



Photo by Terry Leibold, NASA/Marshall Space Flight Center

Otte finds working on the Space Shuttle External Tank more exciting than being a diesel mechanic.

NASA was coming to interview."

In 1987, the Marshall Center offered him a job as a structural engineer — performing stress analysis on the Space Shuttle's External Tank.

The gigantic rust-colored External Tank is the largest single element of the Space Shuttle at 27.6 feet (8 meters) in diameter and 154 feet (46.9 meters) tall — 34 feet (10.4 meters) longer than the distance of Orville Wright's first flight made in 1903. During launch, the tank acts as a backbone for the Orbiter and Solid Rocket Boosters and withstands 7 million pounds (3.2 million kilograms) of thrust.

Otte also served as a lead engineer during the development of the new Super Lightweight External Tank — a redesign that dropped the tank's weight by 7,500 pounds (3,393 kilograms) allowing the Shuttle to carry more payload to the International Space Station.

Otte has worked with the National Launch System, Heavy Lift Launch System, and the Shuttle's Structural

Assessments Branch. In 1999, he joined the External Tank Project office as the Engineering Team lead prior to being promoted to chief engineer. As chief engineer, he is responsible for the overall technical aspects of the tank.

Otte holds a master's degree in mechanical engineering and has completed all course work for a doctorate degree from Auburn University in Auburn, Ala.

He and his wife, the former Kim Huffman, reside in Huntsville with their three sons: Kyle, Quinn and Chay. Otte is the son of Marilyn Otte and the late Junior Otte of Kahoka.

The Marshall Center serves as NASA's leader in research and development of the propulsion systems that enable safe, reliable and lower-cost access to space and space exploration. It is the home of the Shuttle's External Tank, Solid Rocket Boosters — which include the Reusable Solid Rocket Motor — and Main Engines.

The writer, employed by ASRI, supports the Media Relations Department.

Take your time to avoid slips, trips and falls

from Marshall's Safety Office

Slips, trips and falls continue to be the most common cause of lost-time injuries at Marshall. Already this fiscal year, there have been 14 incidents in this category — four of those lost-time injuries.

Tips to prevent slips, trips, falls

- Don't be in a hurry
- Stay alert and pay attention to your step
- Wear comfortable and appropriate foot wear
- Report or take action to eliminate hazardous situations like spills, loose tiles and carpet, obstacles in walking paths, inadequate lighting and poor housekeeping.
- Exercise stair safety — walk slowly, hold the hand rail, look down and be aware of hazardous conditions, make a visual check before movement
- Whenever possible, use sidewalks and designated walking paths. Be especially attentive to curbs and damaged/frozen/rough/loose surfaces
- Preplan your movement — ask yourself, is there a better/safer way
- Don't carry objects that obstruct your vision — find a better way or seek assistance
- Set the example and offer to assist others
- Get a good night's rest and be especially aware of your personal behavior/attitude changes

Safety Awareness Program

A safety awareness program aimed at slips, trips and falls will be held from 9-10 a.m. May 16 in Morris Auditorium. Supervisors may substitute this program for the monthly safety meeting.

Pioneer 10 spacecraft lives on

Ames release

NASA scientists announced April 30 that they had contacted Pioneer 10, the plucky small spacecraft launched 29 years ago, ending speculation that its signal had finally fallen silent.

In a test of communication technologies for future interstellar missions, scientists operating a radio telescope antenna in Madrid, Spain, established contact with the small spacecraft April 28 at 10:27 a.m. PDT (GMT 17:27:30). It was the first time the spacecraft had been heard since August 2000.

"Pioneer 10 lives on," declared Pioneer 10 Project Manager Dr. Larry Lasher of Ames Research Center in Moffett Field, Calif.

"We have been listening for the Pioneer 10 signal in a one-way downlink non-coherent transmission mode since last summer with no success," Lasher said. "We therefore concluded that in order for Pioneer 10 to talk to us, we need to talk to it." A signal was sent to the spacecraft, which locked onto it and returned a signal to the Madrid facility.

Now orbiting 7 billion miles from Earth, well outside the solar system, Pioneer 10 was launched on March 2, 1972. The spacecraft is currently 7.29 billion miles from Earth, traveling at 27,830 miles per hour, relative to the sun. At that distance, the signals take 21 hours 45 minutes to make the round trip between Earth and the spacecraft. Pioneer 10's weak signal continues to be tracked by the Deep Space Network as it heads toward the constellation Taurus, where it will pass the nearest star in about 2 million years.

For more information, visit the Web at:

http://spaceprojects.arc.nasa.gov/Space_Projects/pioneer/PNhome.html

OAO Corp. receives ISO 9001 certification

OAO release

As a part of OAO Corp.'s commitment to the quality of services provided under the ODIN (Outsourcing Desktop Initiative for NASA) contract, an effort was begun in 2000 to win ISO 9001 certification.

On Jan. 10, full-scope certification was issued to OAO by INTERTEK Services Corp. using the quality assurance standards ISO 9001, BS EN 9001, and ANSI/ASQC Q9001-1994, applicable to the design, implementation and provision of Enterprise Information Technology (IT)

Outsourcing.

To begin the certification process in February 2000, a local OAO staff member was trained as an ISO 9000 auditor, and the OAO staff introduced and trained in the fundamentals of ISO 9000 during spring 2000.

A quality manual was developed, and copies of processes and procedures were posted on an Intranet Web site. Trained auditors from OAO conducted an internal audit in May 2000.

Assessment was completed Dec. 21, 2000, and a recommendation for certifica-

tion approval was issued Jan. 10.

In addition to the Marshall OAO ODIN team, three other OAO ODIN support teams — at Kennedy Space Center, Johnson Space Center and Stennis Space Center — received ISO 9001 certification.

Internal ISO 9001 audits will be conducted twice per year and ISO 9000 surveillance audits by an outside audit team will be conducted twice per year over the next three years at each OAO ODIN site.

Center Announcements

E2 TEAMS Conference

The Education and Employment for Technical Excellence in Aviation, Missiles and Space (E2-TEAMS) will be held May 15-16 at the Von Braun Center. The two-day conference focuses on fostering collaborations between government, industry and academia. Technical areas being presented are advanced propulsion and hypersonic systems, robotics, novel power sources and broad spectrum vision sensors.

Economic Summit

The annual Tennessee Valley Economic Summit will be held May 28-30 at the Hyatt Regency Hotel on Capitol Hill in Washington, D.C. The summit will bring together key leaders in government, industry and academia to discuss issues of key importance to the Valley Corridor. Sessions include a national forum on science and research, the future of our national aviation, space and defense policy, the development of a national energy policy, the redevelopment of underutilized public and private sector manufacturing sites, emerging information technologies and transportation innovations.

Information conference, expo

The Marshall Center is teaming with the U.S. Army Aviation and Missile Command and the Ballistic Missile Defense Organization to sponsor an Information Assurance Conference and Exposition June 6-7 at the Bob Jones Auditorium in Bldg. 5304 in the Sparkman Center. Admission is free. To register, visit the Web at: www.TechnologyForums.com

Blood pressure screenings

The Marshall Center is offering blood pressure screenings for employees. Employees may stop by the Medical Center in Bldg. 4249 any afternoon between noon-3 p.m.

Web time, attendance system

A new Web-based time and attendance product will be rolled out at Marshall over the next few pay periods. The product, WebTADS, allows the employee the option of entering their own time or they can continue to have a timekeeper enter their time. Employees and timekeepers will be notified of the training schedule as their implementation time nears. Prior to implementing, individuals need to be sure their Web-browsers are upgraded to the latest versions before they attend the training — Internet Explorer 5.0 or higher and Netscape 4.6 or higher.

Clubs and Meetings

Annual Stamp Show

The Huntsville Philatelic Club will hold its annual stamp show June 2-3 at Huntsville's Tom Bevill Center. This year's show honors the International Space Station. Admission is free. For more information, call Kathy Campbell at 881-0941.

NARFE meets

The National Association of Retired Federal Employees (NARFE) will meet at 9:30 a.m. Saturday at the Senior Center on Drake Avenue. David Hoover of American Express will address the continuing problem of telemarketing fraud. For more information, call 881-4944 or 881-3168.

ASEM meets

The American Society for Engineering Management will meet at 11:30 a.m. May 15 in the Regimental Room of the Redstone Arsenal Officers' and Civilians' Club. Alex Hardy, director of Cummings Research Park, will speak. A fee of \$2 per person is due at the door. To attend, call Pam Takada at 544-3545 or send an e-mail to: pam.takada@msfc.nasa.gov

Miscellaneous

CASA needs volunteers

CASA of Madison County is holding a ramp building training session for all interested volunteers at 6:30 p.m. May 15 at the Senior Center on Drake Avenue. For more information and to reserve a seat, call 880-0603.

Job Opportunity

Reassignment Bulletin 01-008-DS, AST, Technical Management GS-801-13, Systems Management Office. Closes May 16.

Sports

Fishing tournament results

Alex Rawleigh and Ken Anthony caught 50 fish for a total weight of 23.8 pounds to win the annual MARS Fishing Club Bream Tournament held April 28 at Brown's Creek off Lake Guntersville. Charles Cothran and Ross Evans placed second with 30 fish totaling 13.6 pounds. Deon Smith and Shirley Smith caught 35 fish weighing 9.47 pounds for third place. The next tournament will be May 12 at Decatur's River Walk Marina. For more information, call Don McQueen at 544-9073.

Upcoming golf tournaments

Upcoming golf tournaments include a two-person best score tournament to be played at 7 a.m. May 19 at Guntersville State Park. Entry deadline is May 11. A two-person best score tournament will be played at 8 a.m. June 16 at Chesley Oaks. Entry deadline is June 8. You can select your own partner. If you do not have a partner, call in to enter as early as possible and the tournament director will team you up with another single entrant. The entry fee for each tournament is \$5. Greens fees and cart fees will vary depending on the course. Enter a tournament by contacting Lee Foster at 544-1589.

Employee Ads

Miscellaneous

- ★ Mattress for day bed, \$25; 3/4-size antique rope bed, \$100. 883-5396
- ★ Rockwell 14" band saw, \$350. 232-9303
- ★ 1987 17' SeaRay IB/OB, 140HP Mercruiser w/drive-on trailer, \$3,750 obo. 256-586-7658/722-3432
- ★ Sears Craftsman car buffer/case, \$15; girl's Ross 18-speed bike, \$45. 682-5181
- ★ Housemate wanted, Madison, washer/dryer, cable/internet, hot-tub, parking, storage, pets, fenced yard, private bath, \$385/\$425 non-furnished. 527-9702
- ★ Bombay Company Oak French Country coffee table, \$150, matching end table, \$100. 882-1431
- ★ Weslo Cadence treadmill, 1.5HP, 0-8 mph, extended stride, auto incline, \$250. 527-4067
- ★ Lion King II comforter set, \$20. 776-9165
- ★ Three cushion cloth sofa, cream/blue/mauve, \$225. 971-0292
- ★ 1979 Massey Ferguson 285 diesel tractor, 80HP, \$8,500 obo. 732-4824
- ★ Apple 17" color monitor with cables, \$165. 858-9535
- ★ Metal toddler beds, \$12 ea., plastic toddler bed, \$15; mattresses, \$25 ea.; swing, \$25. 723-4983
- ★ 1999 Fender Stratocaster guitar w/1962 strat pickups, \$800 obo; 1/2 carat marquise diamond ring, III (w/appraisal), \$700 obo. 461-7154
- ★ Kenmore washer and dryer, \$150 for both or \$100 each. 722-0417
- ★ 1986 Galaxy 18.9 Bowrider, 3.7L 170HP Mercruiser Stern-drive, dual axle trailer, \$3,500. 353-2147
- ★ 1978 motor-home, 27', sleeps 6-8, new tires, low generator hours, low mileage, \$4,000. 858-6746
- ★ Portable aluminum storage building 12x20, wired w/AC unit, \$1,200. 881-3353
- ★ Schwinn personal trainer weight stack system, \$600. 775-1592
- ★ New queen-size mattress set, top-of-the line, \$300. 883-2237
- ★ Glass, 1/4", 32x63 and 40x63, both \$25. 881-3661

- ★ 1989 Wellcraft 192 Classic, cuddy cabin, 4.3L V-6 Mercruiser, dry stored, storage paid thru July, \$6,500. 797-6173/880-8008
- ★ Craftsman lawn mower, 3.8HP, 20" blade, side bag, lift and mulch blades, \$60. 881-0557

Vehicles

- ★ 1993 Taurus, red/gray interior, power seats, locks, windows, cruise, a/c. 93,000 miles. \$2,500. 883-5646
- ★ 1991 Chevy Tiara HiTop Conv G20 Van, deluxe package. One owner. \$8,500 obo 464-5542
- ★ 1979 Chevy pickup, 93K miles, automatic, long bed, tool box, good tires, \$1,750. 650-0677
- ★ 1980 Suburban, new engine, 4WD, automatic transmission, tow-package, \$2,900. 881-8565
- ★ 1967 Ford Mustang, blue, automatic, a/c, new tires and wheel covers, new interior, \$5,900 obo. 379-4921
- ★ 1993 Dodge Grand Caravan SE, one-owner, many new parts, service records available, \$4,995 obo. 895-9520
- ★ 1996 Chevrolet Blazer, 4WD, automatic, a/c, LT pkg., leather, CD, 60K miles dark green, \$12,500. 658-6183
- ★ 1995 Chevy Astro van, many extras, eight passenger, 11K miles, \$6,300. 721-2239
- ★ 1996 BMW Z3 Roadster, 5-speed, leather, 16K miles, lt. blue, \$19,900. 658-6183
- ★ 1992 Dodge Caravan van, low miles, new tires, \$4,200. 461-8182
- ★ 1999 Mercury Cougar, red, auto, p/w, keyless entry, 27K miles, \$12,500 obo. 772-1821/714-5504
- ★ 1986 Ford Bronco II, red/tan, V-6, auto, 4WD, 211K miles, \$1,400 obo. 722-8570
- ★ 2000 Nissan Altima GLE, one-owner, 26K miles, 100K/6 yr. warranty, PB/PS, leather, sound system, automatic, \$15,750. 774-3598

Free

- ★ Kittens (2), female, gray, part Russian Blue. Six weeks old. 723-5083
- ★ To good home, seven mixed blue/red heeler puppies; 3 males, age 6 months; 4 puppies,

age 6 weeks; very pretty markings. 882-1481

- ★ Pine trees suitable for making a pole building. 881-6040

Wanted

- ★ One person to share driving in carpool from the Guntersville area, 7 a.m.-3:30 p.m. tour. 544-8010
- ★ Corner cabinet for small TV. 971-0048

Found

- ★ Sunglasses, Bldg. 4312. Call 544-4758 to claim/identify
- ★ Bracelet, Bldg. 4200, SE ramp. Call 544-4758 to claim/identify

Starship

Continued from page 1

interest and enthusiasm being shown by school-age children, many of whom visit the exhibit as part of class field trips.

This high-tech "spacecraft" hitches a ride inside a tractor and trailer rig. Housed in a 48-foot trailer, the traveling exhibit is designed to share NASA's vision of what commercial spaceflight might be like 40 years from now. Visitors board the "ship" and move through a fully realized mock-up of the control, passenger and engineering compartments, where they'll gain insight into technologies that eventually will make such an out-of-this-world experience as routine as air travel.

All the innovations suggested aboard the exhibit — automated vehicle health monitoring systems, high-energy propulsion drive, navigational aids and emergency and safety systems — are based on concepts and technologies now being studied at NASA Centers and partner institutions around the nation.

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